

Field Notes:
1930 Expedition to San Nicolas Island

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Transcribed with minor editing by
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In keeping with customary practice, the text of the document was lightly edited and modernized in order to make it more understandable to the contemporary reader, while maintaining style and tone, and particularly, content.

Monday, July 7

Left San Diego at 7 A.M. and drove to Wilmington. In afternoon bought supplies and loaded outfit aboard the Dreamer. Set sail at 7 P.M. for San Nicolas Island.

Tuesday, July 8

Reached Santa Barbara Island at 5 A.M. in a choppy sea. Captain Sanger sick. Sea getting rougher. A strong west wind blowing with high fog. By 7 A.M. half the crew sick and boat rolling too much to cook in galley - nothing to eat but cold food and no one wanting it. Making only 4 knots. By 1 P.M. bearings were lost and Captain Sanger ready to turn back - no sight of San Nicolas. Shortly afterward I sighted the island to the northwest of us. Decided to run for it. Made the southeast lee and anchorage at 5 P.M. Got a meal cooked at 6 P.M. but few could eat it.

Wednesday, July 9

Left anchorage at 6 A.M. and sailed around east sand-spit and made our way along the north coast in a very heavy sea. Reached anchorage in Crescent Bay at Brook's Landing at 9 A.M. Got crew and outfit safely ashore by noon and enjoyed our first real meal. Spent afternoon making camp and getting organized. Sanger outfit immediately started out on a relic hunt. Made a mistake ever coming here with them, although our government is badly at fault for not protecting the archaeology of the island.

Thursday, July 10

On learning that the Sangers augmented by the family of sheep herders on the island were going out again I decided to scatter my forces and beat them to it. They started out with horses shortly after us and the high-grading race was on. We were fairly successful but they, having the help of the sheep herders who had already located many things, procured the pick of the surface objects - a fine situation. They got aboard ship by 3 P.M. and sailed off with their loot.

Our crew worked both ways from Crescent Bay toward the ends of the island so that a fairly good reconnaissance of the entire north side was made. It was observed that the entire side was a continuous midden. There are breaks where the midden was thin and then subsequent erosion has carried it away. But the bulkier constituents still remain to mark the original midden. This great midden is about divided at even intervals into areas of great concentration - these we have given site numbers and have included all material under these numbers which was obtained from either side of the half way line between concentrations. The middens toward the west end of the island are the largest. The most middens by far were started on sand dunes which already existed. Today a few small ones were observed which began on a sand stone base. Back of Crescent Bay is a raised Pleistocene beach very well preserved at about 40 ft. above sea-level - one exposure showed a solid mass of wave ground shell 3-1/2 ft. thick [see listing at end]. Some midden matter was seen lying directly on this. Here at the edge of or rather base of this terrace an occupational stratum was found with but traces of shell in it and no stone work - above it was a 15 ft. indurated sand dune with a late midden on top of it.

Friday, July 11

Site No. 1 - Area = 3 acres originally with an acre on an adjoining hill to the rear - the latter has only a max. depth of 8"; named 1-A. No. 1. appears to be mostly middle with some late midden - the cemetery has been destroyed. The late islanders concentrated their burials - used markers invariably whale bones - big stones - and smashed mortars, pestles & bowls. Our reconnaissance on the north side of the island failed to produce a single cemetery which had not been sacked - most diggers simply took the curios and threw the skeletons away. In some places these cemeteries were eroded by the wind until the bones were exposed making it a simple matter for the early collectors. We saw many places where the terrific erosion had destroyed burials - washing the bones about over the mesa. All the local soils have a peculiar quality of setting up very rapidly after forming - making it difficult to place burials at any great depth - this is not considering the modern sand dunes - the older ones are quite indurated and it needs a pick generally to break this formation - they are really fossil dunes.

As the modern dunes are moving about rapidly it is possible that there are still some extant cemeteries which are hidden by them. No. 1 Site was started directly on an indurated dune. Very little evidence of late material was found here outside of fish hooks, and a smashed sandstone bowl with a squared-off rim.

After note - No. 1 is mostly of the middle period culture and was not intensively occupied during the late period. Perhaps because it was already badly eroded. The early period shows on the point.

In a washed out cemetery parts of one skeleton (SK-1) were found in place especially the skull - latter in bad condition and badly warped - as it was in sand but slightly indurated it is difficult to understand how it became so pressed out of shape. Cemetery 2.

Shell ratio: Sea urchins 15%; Tent Shells 5%; Mussel 20%; Abalone 20%; S.Snail and L.Snail 20%; Butterflies, etc. 10%; fishbone and vertebrates 10%; Red abalone scarce.

3 kinds of hearths were observed - a basin type in the fossil dune, the square shaped pavement of sandstone slabs, and a single slab horizontally supported on cobbles (fire underneath)

Among the food items fish occupied only a medium place, also vertebrates. The remains of many dogs were found here in such positions that there is no doubt of their being contemporaneous with the late period and possibly middle period. A burial of 3 dogs jammed in together was found here 1 foot below the top midden. One dog was pregnant - none of them showed evidence of violence.

Greatest depth here = 16" now - possibly 2' originally. Low shell content except where individual patches occur then it goes up very high. Mortars, pestles, and bowls scarce.

No. 1A Appears to be of same age as number one. One and possibly two large community houses are plainly outlined on top of this site as it has not been eroded.

The one community house pit which was very definite measured: N+S diameter = 39 feet; E+W diameter = 35 feet. A trench run across the bottom of the pit N+S gave the following data:

A broken pestle and a mortar fragment were seen. There is much quartz working here for this culture. Shell ratio here about the same as No. 1 - no patches of urchins seen.

SK-1 - One burial was located here by finding the top of the skull exposed. It was that of a female with no mortuary offering. The body was flexed on face but had tilted over to right side - head to the east. It was by the side of a house pit. Quite a few pits are distinctly visible here. A section of a dog's cervical column was found 3 feet south of body.

Sites 2, 3+4 have concentric fringes of red abalone which probably underlie the more recent top middens. In gullies this was marked in several places.

Saturday, July 12

Worked on sites 2+3 - No. 2 = eroded but still shows an area of 2 acres. No. 3 = Badly eroded but still covers 3 acres. Both of these sites have a shell ratio of 2 to 1 on mussel and abalone and not such a variety of other shell - fish bone and urchin % drops down - also amount of vertebrate bone. They are of the same age as No.1 but the first occupational stratum could not be found here. The cemeteries at both sites have been dug out. Mortars, pestles, and bowls are more numerous than at No.1. especially at No.2. Here fragments of carved bowls were first seen, also square shell beads.

At this site (No. 3) a cache of fish hook blanks, some drilled, two reamers, bone awls and stalagmite [rhizo-concretion] grinders were found in a cut bank but not under the midden unless it had been eroded off at this point. Max. depth of these two 14".

There are two small middens between No. 2 + No. 3.

Located and worked No. 4. This is a double mound site with a separating arroyo. Westward = 2 acres; East mound = 1 acre by paces. Shell ratio about the same as at 2+3 with the mussel % rising to dominance.

Max. depth of No. 4 = 15" Judging from the surface concentration of shell on these 4 sites they might have originally been a foot thicker. The charcoal content of all the middens seen is high except in

the early levels. It is fine and must have been derived from small brush. No large pieces have been seen yet. Some whale bone markers were seen at No. 2.

Sunday, July 13

I divided the crew to-day sending 2 men to the west to locate sites and make surface collections. Sites 10, 11, 12, 13, 14, 15 were located and collections of shell, bone, and artifacts were made. It was observed that the western middens run stronger to mussels. The east middens do not have as many red abalone as the west middens do. Perhaps this is due to the fact that they were chiefly sought by the late people to make fish hooks from. The red abalone being the only one used to make fish hooks with. (I saw a hook made of clam shell though in a sheep herders collection on the island.)

I took the rest of the crew to the east and located Sites 5, 6, 7, + 8.

Site No. 5 = Original area = 2-1/2 acres but so badly eroded away that only a few small sections are intact. Max depth = 12". This site is narrow and long drawn out along the top of the sea cliff. On the mesa to the rear are many scattered house sites as is to be found back of all sites on the north side. Many square hearths of good size made from great slabs of sandstone were seen. A few broken mortars seen at this site. Red abalone midden back of this site as they usually are on the northeast end of island.

Here the first occupational stratum crops out on the sea cliff. Contains only a few mussels, land snails + fish bones - no worked stone. It is covered with an indurated dune 9' high. Vertebrate and fish bone scarce at No. 5. Middle period occupation mostly. Shell ratio: Mussel 65; Abalone 35. Relative to themselves.

Site No. 6

A small site of only 1/8 acre on sea cliff but much has been eroded away. No mortars seen here. Middle period site possible some late as red abalone scrapers were seen and fish hooks. Shell ratio the same as at No. 5.

Between No. 6 and No. 7 the mesa has been but little disturbed by erosion. Scattered over it are many house pits which show distinctly. They vary greatly in diameter. The smaller ones are only 6 to 7 feet across. The larger ones average from 9 to 10 feet across (rim to rim). They are circular in outline. I should say that they date from Middle period to Late although no pestles, mortar or bowl evidence was found, nor were fish hooks. A few slate knives were seen. I should say the doorways were on the east side as the most shell accumulation was on this side. Some of them were double or had an annex - one



always being smaller than the other, like this:

We excavated one large house and found a ten inch fill over the floor and no hearth. The floor was 22" below the present rim level. The pit was undoubtedly originally 2' deep, making these true pit houses. As

the island now supports no tree or shrub large enough to form frames it is a problem (the construction). Whale ribs were used when available as we sometimes found but they could not supply all the frames, for the houses on the island. Dog burial exposed in sea cliff 16" beneath top of midden buried in an indurated dune with no midden matter.

Monday, July 14

Split the crew again, sending two men to cover the plateau of the east half of the island. They found one large site at 500 feet elevation 1/2 mile by 1/4 mile badly eroded perhaps part of this great area is due to wash spread. At no place did they find over 8" of accumulation. This is site No. 25 and is at the head of the drainage coming down to Crescent Bay. A little water was found in this canyon near its head. (No water was found at any site east of Crescent Bay.) Between this site and the east end of the island 3 other small camps were found. All these sites appear to be late and not early as steatite and slate knives occur at them also mortars, pestles and bowls. Vertebrate bone was scarce as was shell. The species were mostly mussel and some abalone. Perhaps the slate is native as next to a yellow chert it occurs the most frequently on the sites. The chert occurs in very thin sheets. Neither of these stones have been found in place as yet.

Old beach cobbles occur fairly plentiful along the whole north side on the Pleistocene terrace. They appear to have been derived from the interior plateau where the main source of supply for the chipped work of the natives. About 2/3 of them have been utilized and the big middens are full of thousands of chips. They are simply percussive flakes and undoubtedly served principally to cut out the meat of shell-fish. Some tools were made from these cobbles such as hammers, choppers and fleshing planes. The two latter implements are identified with the tools of the Proto S M culture of the mainland. The planes predominate in the late period. Very few have been found with secondary chipping.

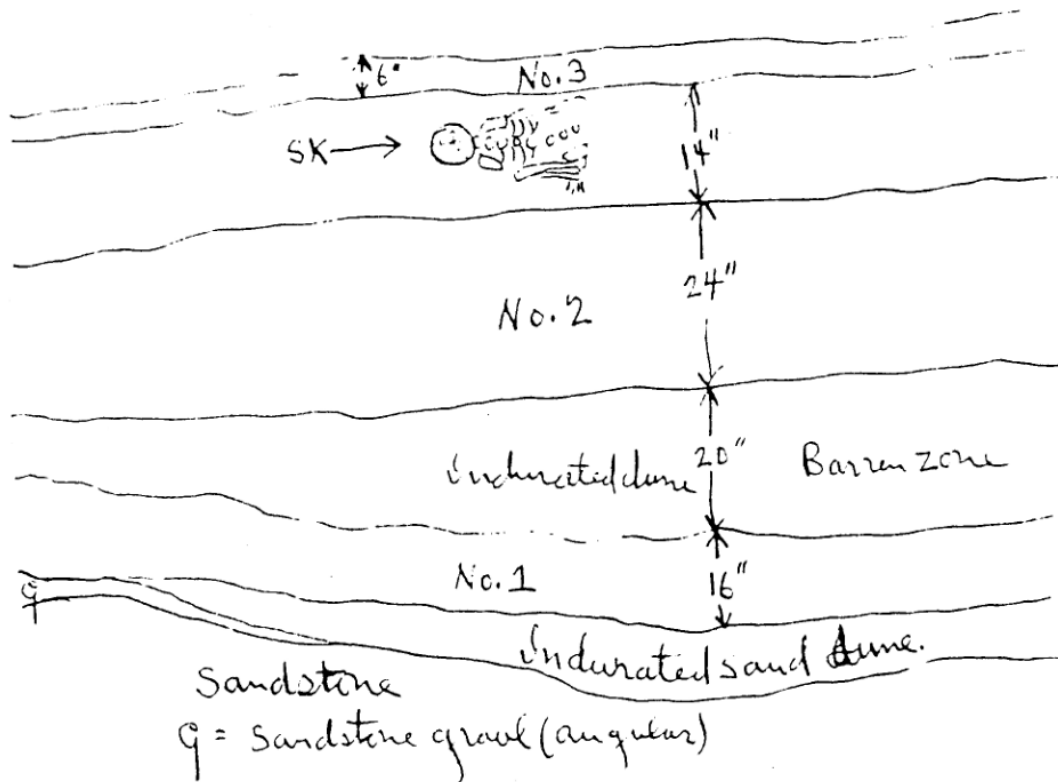
Located Site No. 7 - Area = 1 acre. The site is mound type with a low extension to the east for a quarter mile. The cemetery has been dug out. Possessed whale bone markers and big sandstone slabs. This site contained the highest % of mussel yet seen. Shell ratio: Mussel 75%; Abalone 15%; Misc 10%. Lots of vertebrate bone in upper level and usual amount of fish bone. This mound was not excavated for stratigraphy but it was found in the sea-cliff of the eastern extension (7-A).

At 7-2+3 great sandstone slabs were often found with hematite on one side. These grinding slabs seem to have been used principally for this. Only two definite manos and one metate have been seen so far. The latter is probably only a deep basin grinding slab. Mortars and pestles occur at No. 7. Top stratum here produced 5 broken steatite rings all different rings. Located a burial at No. 7-A and between this site and number 8 found a sheep skeleton in the sea-cliff. It seems to be a domestic type (young male) but was under 3' of stratified arroyo fill exposed in sea-cliff. It must have taken much time to produce this condition as the coast line had to be eaten back to expose it.

No. 8. site = Scattered occupation with out depth on the east end of island. One house site with whale ribs was found there. Shell ratio same as at No. 7. No mortars seen.

Tuesday, July 15

Revisited east end of island with half the crew making surface collections while I took out burial at 7-A. 3 culture levels show plainly here in the sea-cliff. These are given in the following map. No. 3 Stratum may not be culturally different from No. 2 Stratum but they both are culturally distinct from No. 1 Stratum at all sites. The burial was that of a female (?) with no offerings. She was flexed on the left side with head to the north. A few bones had tumbled into the sea.



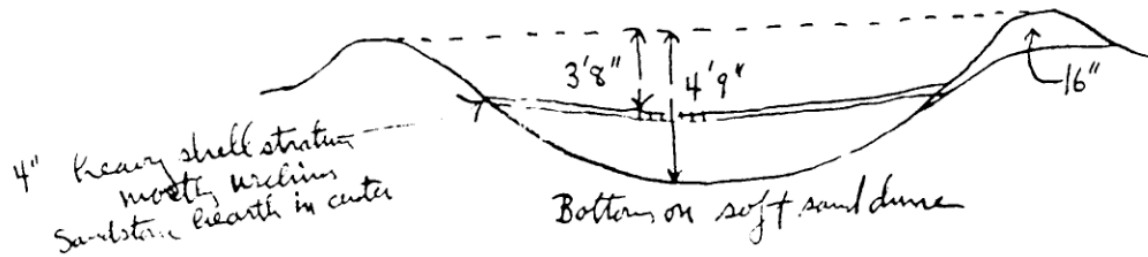
None of 3 stratum was in the burial so it must antedate the burial. No marker on burial.

Stratum No. 1: Fish bone 40%; Mussel 40%; Red abalone 20%; some vertebrate bone and a few spalls. Stratum No. 2: Mussel 50%; Abalone 50% (relative ratios); Some red observed [?]; some other species with very little fish or vertebrate bone - plenty of spalls. Stratum No. 3 = Mussel and abalone equal - 1 fish hook present.

At Pit-house Mesa we found a burial in bad shape exposed in an arroyo cut a few feet from the edge of a house. Skull had gone off down the wash. The interment had been made in the Pleistocene shell stratum which is loosely consolidated and easy to dig in as it is mostly ground shell and sand. Body was flexed on left side with head to the east. Sex? A thin film of asphaltum had been first spread under body. Between the knees were two black abalones cupped together with 3 small pieces of steatite in them. These bits of steatite had bevels ground on them.

Wednesday, July 16

Reworked Sites 1-1A, 2+3. At 1-A many pit houses were found and one large community house site which measured 34 feet in diameter. Put a trench through the center. Found the floor at a great depth.



On the crown of this site one burial of a woman was found with no offerings. Buried flexed on face, head to east with post burial tilting onto right side. Original depth quite shallow. Live stock had stepped on it poking a hole through right parietal. This site seems to be late as steatite mortars and pestles were present. Considerable quartz chipping was found on this site.

Spent afternoon on Site 1 taking out dog burials. 3 adult dogs were found packed in together 14" under the midden level. One dog had a litter in the abdominal cavity. Dog remains are specially plentiful at this site and for that matter in all late middens so far none have been found in the early period. The middle period occurrence is still doubtful.

So far the evidence shows asphaltum to have been first used in the middle period. It was frequently found filling abalone shells into which it was poured. It was melted by mixing small hot pebbles with it on top of a whale vertebrae or in a basket. Wrapping marks on bone tools set with asphaltum shows the natives to have had a two strand twine. As there are no agave species on the island the fiber source is still unexplained.

Thursday, July 17

Sent Sharp with a load to make a base camp on the west end of the island, the rest of the crew to move on tomorrow. Located Site No. 9. Area = 1/4 acre, has been about twice as large. Plenty of water here and at all sites west of here on the north shore but from here to the east end we could find none. The water on the east half of the island is usually salty. The water at No. 9 is salty. At this site are two distinct occupational strata, probably representing the middle and late occupation. At the base of this site on the sandstone 14' below the crown is a very hard dark red stratum very like the 1st culture stratum found elsewhere but only land snails could be found in it and no positive evidence of fire. Between it and the middle stratum was a maximum of 4'6" of indurated dune.

Middle stratum = max. thickness 14" with a concentration of shell near the top. This condition has been observed to obtain in all buried middens as well as on surface middens showing them to have been subjected to wind erosion subsequent to abandonment and previous to subsequent aggradation. Judging from the shell content of the middens in relation to the surface concentration I should say that most all had been reduced 1/2 their original thickness. Worked stone, 2 bone awls, 1 fossil root file. On top of this stratum was found a broken tibia and a metatarsal from a washed out burial.

No. 1 Middle stratum: Fish bone 40%; Sea urchin 40%; Mussel 15%; misc 5% - mostly abalone, some land snail. No. 2 Top or Late Midden: Sea urchins 30%; Black Abalone 20%; *Astraea* 20%; Land snail 10%; Sea snail and Butterfly 10%. Max. thickness = 12". Plenty of fish bone much more than in middle strata. Contains fish hooks. Worked stone, planes, choppers, steatite ring, beads, and hair limpet beads, bone awls, abalone scrapers.

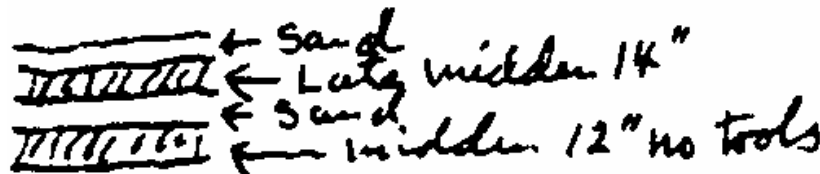
Stratigraphic Profile

Friday, July 18

Moved camp and supplies to new camp at west end where there is a good spring. Took notes on sites on way up.

Site No. 10 = 2 Acres to mound with scattered outlying occupation. Cemetery excavated. Late site. Shell ratio: Urchins 1st; Mussel 2nd; Abalone 3rd - red very scarce; (L) Snail 4th; misc. 5th - small sea snail, Tent shell; fish bone plentiful but localized.

A broken black lava mortar was seen here. Patches of burnt whale bone tools observed but no human bone. Not trenched for stratigraphy but seen in a natural cut on west end.



Site No. 11 = 1/2 Acre to mound - Late site. Shell ratio: Mussel 1st; Abalone 2nd; Urchins and L. Snail 3rd; misc. 4th; fish bone strong only in a few patches.

Manos and grinding slabs strongly represented. Occupation extends back of this site up to the 400 ft mesa without a break but badly washed out. It was seen on a 10% gradient and is peculiar to this region and one wonders how and why the natives built on such a steep terrain subject to great erosion - probably was covered at that time with a dune though.

Site No. 12 = 2-1/2 acres to mound, with scattered outlying acreage. Cemetery excavated by Sanger. A late site. Shell ratio: Mussel-1st; Abalone-2nd [red scarce]; L. Snail-3rd; Urchin-4th; misc. (Tent shell, small S. Snails); fish bone strong in patches.

From this site inland a thin veneer of midden matter extends up a steep slope for 3/4 mile, it is all Late Period underlain with First Period in many places which shows wherever erosion cuts through. This midden lies on a 9% gradient. One washed out burial (L.P. male) was found here, also the first steatite doughnut yet seen.

Site No. 13 = 4 acres.

Shell ratio: Abalone 40% (Red 30, Black 70); Mussel 30%; L. Snail 10%; Urchin 15%; misc. 5%. Keyhole limpet occurs at all late sites but not as a food item, obtained principally for hair ornaments and beads. Stratigraphy at this site - lower stratum 5' beneath upper stratum with indurated dune between. One flake of Franciscan flint found in it and one red abalone scraper and one human rib? Fish bone strongly represented in upper levels with many fish-hooks - the later have yet to be found away from fish bones. Sea-otter skull found here 18" under apex of midden.

Site No. 16 Area = 2 acres.

SK-1 = a child of about six flexed on right side head to the north. A late period burial with 3 pismo beads, 3 fish teeth beads and fifteen square beads about chest region. Some butterfly shells near neck. Body in very bad condition. Stock had crushed in top of skull and head was twisted in abnormal position half around as if neck had been broken. Burial on lea talus. Right arm broken. This child probably fell off the sea-cliff and met a violent death.

SK-2 = Adult male - flexed on back - head to the south no offerings - skeleton pathological - bone ulcers from head to feet - bone in bad condition. Half of right arm missing. Burial 39 feet west of SK-1.

SK-3 - Baby burial (probably still-born or at least but a few months old). Cardium shell over chest with one small paphia? shell - over chest region many small side section olivella beads - square cut - long slot type. Head was covered with a large cardium shell and about head was a coiled string of cross section olivella beads. Burial was in an indurated sand dune with no midden over it. Bones thoroughly decayed. 4 bone arrowpoints were washed out about area. One fish hook reamer beneath head shell.

Shell ratio: Abalone 1st (B=70, R=30); Mussel 2nd; L.Snail 3rd; misc. 4th.

Site No. 17 - Area = 4 acres - Two Main Mounds. Limpet 15%; S.Snail 30%; L.Snail 20; Urchins 20%; Abalone 15%. Fishbone only on the seaward point and in top layer. 2 washed out burials seen on talus. Late Period Mounds. No Snail People Midden exposed.

It was found that the chert the natives used came from a calcareous tufa on the island? The source of the slate knives which were used as often as chert has not been found. The Franciscan dark chert of the mainland was used for knives and fair sized chunks of it have been found in late camps. It probably was imported.

Doughnut stones are common at all late period sites except those on the inland plateau. Those of steatite are more numerous on west end sites but the activities of collectors makes this uncertain. On the central plateau steatite or rather serpentine doughnuts outnumber the sandstone ones.

Whale bone houses seen on SN-13, 16, 17, 18, 20 and 21.

Site No. 18 - Area = 8 acres - 3 acres of it detached knolls. Most of the area between knolls however is wash and not it place. Fish bone scarce here as at 17 - 3 Cemeteries seen here all had been uncovered naturally and two have been excavated - All had beads on them and 2 sacrificed mortars.

Shell ratio: Abalone 25%; S.Snail 15%; L.Snail 25%; Limpets 10%; Mussel 25%. Some patches of tent shells here. Red abalone becomes very strong here; 50-50 in spots.

This site is very patchy as are all big sites. There will often be found big patches of only one kind of shell as if the people fished for one kind of shell fish until they exhausted it. Middle Period stratum is present strong here and abalone scrapers were found in it. Snail People hearths are also exposed on the seaward point.

Cem 1 = Late Middle Period culture probably as no mortars or pestles sacrificed here - completely washed out. Two steatite beads and many whole olivella beads among the bones. Snail midden under it.

Cem 2+3 located in central region on northeast slope. Both looted - fairly late as mortars and pestles of good technique present with late type beads and whale bone markers. Max. depth = 36" on crown of one mound. Middle and late middens contact here to make this depth.

Saturday, July 19

Spent most of Friday P.M. and part of Saturday A.M. building wind breaks around camp and getting settled. Located and made surface collection from Site 20.

Site No. 20

This site produced more steatite and bone work than any other site so far. These people used a great amount of whale bone tools especially chisels. Quite a few bone arrowheads occur here too.

In the P.M. located a burial and excavated it. This is SK-1 and that of a woman that had been slain. She was flexed and on the left side with the head to the south. About the neck was a necklace of 14 bone beads with a soapstone pendant in the center and one large, round alabaster bead next to it (on the left side). Two bone arrow heads were found in the torso one was beneath the right pelvis and one back of the sternum both had entered through the back. The region of about the right malar? was badly smashed in probably from a blow with a club. One bicuspid was found below the larynx. No grave marker was present and the burial was near the base of a large midden mound, but not in midden matter (in sand). One large abalone was found in back of the left pelvis (crown up). Acres = 3 of mounds.

Shell ratio: S .limpet 20%; L. Snail 25%; Mussel 20%; Abalone (both) 20%; Urchins 10%; S. Snail and Butterfly shells 5%. Barnacles while met with in most late middens are scarce and probably came off the backs of red abalone. Many P-planes and sandstone knives. Considering its size this site has produced the most steatite yet. Dog burials present. Tent shells not so numerous on west end as on east end. Top burials have been dug out, below these on the talus were found a broken steatite boat and a small bowl. Trenching on the north end which is very steep produced a stratigraphical section of a puzzling nature. Due to surface concentration even, on a steep talus, distinct encircling zones of shell and artifacts will stand out as if they were horizontally bedded planes - excavation reveals however that they

are not far apart as they are to the apexes shown in diagram. Only two distinct midden strata could be distinguished with a barren zone of 20" between and this had much finely ground up urchin shell in it. The lower stratum forms a black band in the dune with only occasional shell and percussion flake in it. No artifacts were found in it.



Sunday, July 20

Located Site 19 and made surface collections. This site has a steep pitch and is badly washed out. It slopes up to a ridge on the 150' contour. The occupation here has been intermittent from the First Period on (3 layers of occupation often being present in the indurated dunes). None of these layers are thick - the last being probably never more than 14" thick. Two whale bone houses are present. One or two are observable on each end of the late middens. Shell ratio here of late period the same as at No. 20. A dog burial was found here on a thin occupational level 4' under a late midden (indurated dune in between). The dog comes in with the beginning of the true Channel Island Culture. They are scarce though! First period stratum was not found here in the seaward half of the site but a few scattered hearths at low levels may have been due to them. These early hearths are not confined but show only as burnt lens of sand (charcoal very fine - more like a discoloration) in this hard packed sand 3 asphaltum baskets were found made of sea weed. A fox was found dismembered in a middle period hearth.

P.M. Located Site 21. This includes the whole western peninsula and is 3/4 of a mile long and 3/4 of a mile wide. Almost this entire area is of the dune type of midden. All of the top part is at least of the late period of occupation and has segregated burials. Saw 5 washed out burials on the talus slopes of only 10 acres. Located Cemetery No. 1 in a depression in the dunes. This cemetery had been exposed a long time ago and the burials were washed about and destroyed. It is difficult to say how many there were originally but probably four (4) have been washed out. SK-1 was still in place with only the toes and crown of the head exposed. This burial was unusual in being placed directly on the back with the knees drawn up to the chin - arms folded across abdomen. It was in bad condition. Sex female. No offerings found. About the neck was a necklace of very small cross section olivella beads with one stone bead in the center. Close to the forehead was a 4" canine tooth.

Monday, July 21

Returned to work on Cem 1 at No. 21 - Enlarging the excavation we uncovered another burial 3' west of SK-1. This SK-2 was that of a female - flexed on right side - head to the south - hands under face. Left arm under left leg - right arm under right leg - no offerings - small whole olivella beads

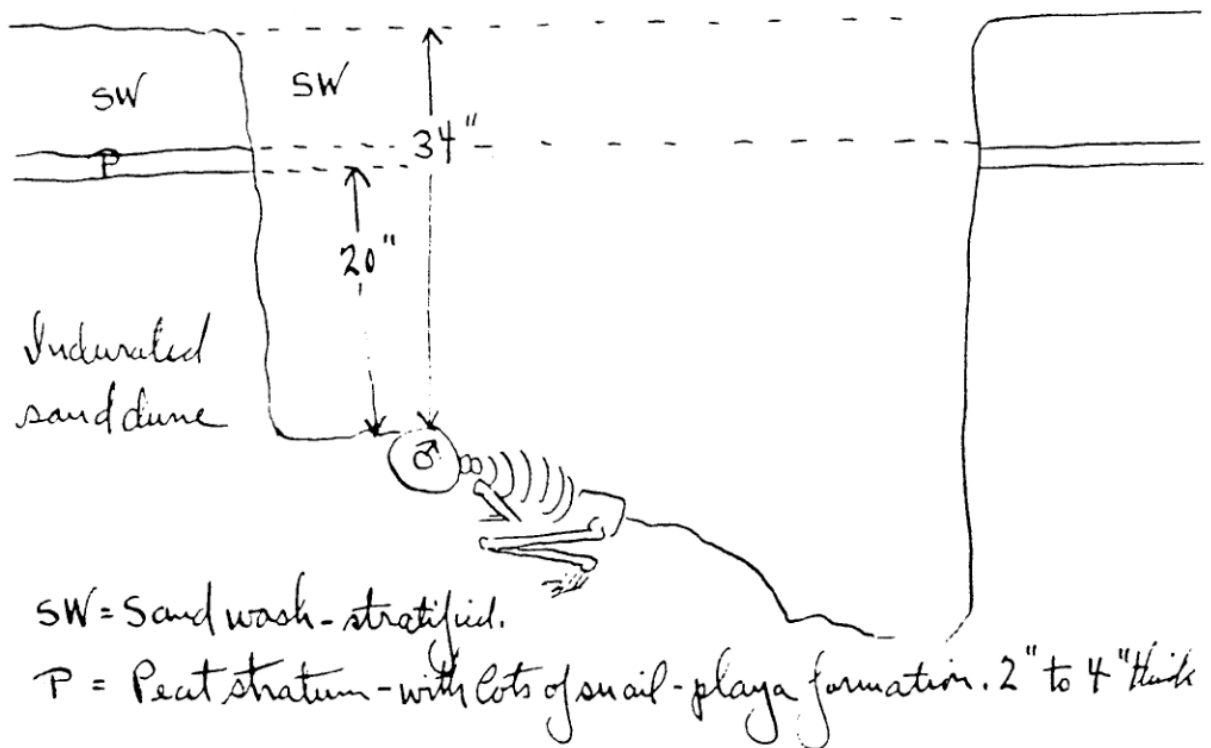
scattered throughout soil around body. This body was in bad condition. The sand here is very wet. 8" to top of skull. Depth 13" to top of bones. SN-21-A Cem 1 produced 4583 olivella beads - string 80 feet long. Further trenching uncovered a pair of arms then further on a pair of legs (SK-3) and still further on a complete torso with no skull. These either represented disturbed early burials made by Late Period people interring their dead or the bodies had been dismembered previous to burial. SK-4 the one without the head had some of the cervical vertebrae and small lumps of asphaltum in the thorax. It was flexed on right side - head to the south. The washed out burials must have been 12 to 14" above torso. The surface about exhibited an extensive bead factory. We screened a quart - washed about on the surface. Many blanks were present and all stages of manufacture. The top burial and beads were late period people - steatite bead and pendants were also found. No pestles nor broken mortars were found on top of the ground.

No. 21-A Shell ratio of north side top layer: L.Snail 25%; Mussel 15%; Urchins 20%; Abalone 15%; Limpet 15%; misc 10%. This peninsula exhibits the characteristic segregation of shell species well - here a pile of tent shells - here a pile of butterfly shells and then a huge pile of red abalone. The late stratum is not so spotted and has a more uniform food content.

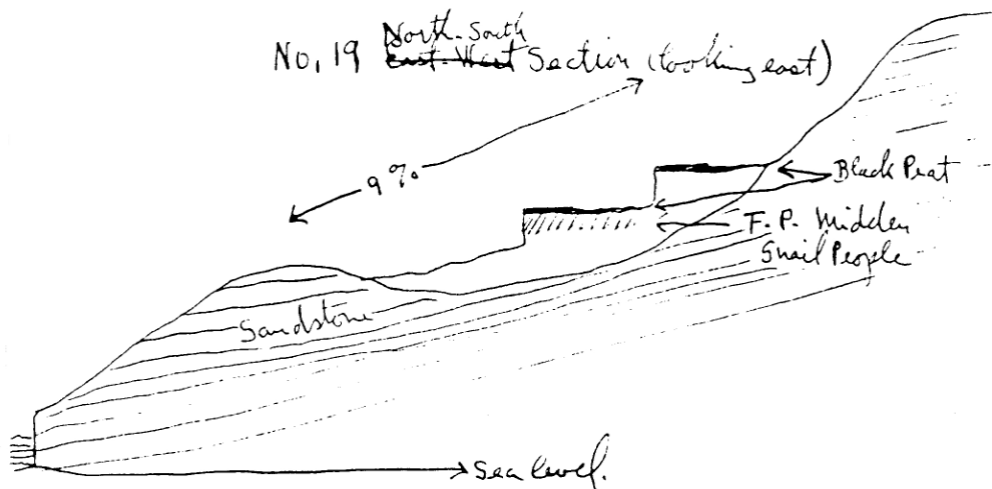
Where abalone and mussel were used occurs the highest shell content. These shells occur in huge stacks especially on the west peninsula, especially the former (Red). 21-C and 21-B are mainly Middle Period middens with Snail People middens underneath. Both have a veneer of Late Period midden on top in places - then the shell content suddenly changes to black abalone and the red runs out. We could find plenty of black live abalones on the reefs but no red abalone. House pits are plainly visible on 21-C and 21-B with big orderly stacks of red abalone about them. Artifacts are extremely rare in these red abalone middens. They seemed to use but a few whale bone tools and only eoliths. Rock was first chipped during this period. No bowls, mortars nor pestles were found in these middens. Their burials are scattered and cemeteries did not exist during this period. (They were afterward found on the talus and in intervening valleys.) The Middle Period seems to have been a long period as its strata often have barren strata in between. The red abalone scraper seems to mark the beginning of the L.P. or to come in toward the close of the M. P.

Tuesday, July 22

Worked on No. 19 in the A.M. and found that Snail People lived here first as was not at first observed. Found burial in an erosional cut near sea front. Flexed on right side head to the east - face tilted down - no offerings.



Four asphalted baskets were found on this site buried in hard indurated dunes and beneath Late Period middens. There seems to be no doubt that these were possessed by the Snail People as well as by the following peoples. All seem to be made of sea grass although some show a coarse texture like twigs. No shape could be determined. One was roughly spherical with a small neck (?). They were probably all pitched water bottles or cooking baskets. The masses of melting pebbles seem to occur only in the late period. They were not found in place in M.P. Strata but some found on bare indurated dunes maybe M.P. stuff. At 19 F.P. middens were found beneath peat strata which had formed in sills [?] between the highlands and shore structures which have since disappeared (perhaps indurated dunes.)



One asphalted basket uncrushed but in bad condition was found in hard packed SN Red Loam it was full of packed yellow sand. It would seem that this had been placed in an excavation in the SN Red Loam and is not older nor of the same age as the SN Red Loam. It probably is of the First Period age though as these middens show not far back of this find at a higher level greatly cut back by erosion.



Wednesday, July 23

Returned to Sites 18-17+16 to survey and make surface collections.

Located 2 burials at No. 16 and excavated them. See July 18th. No evidence of a large cemetery was found here. Sent part of crew to base camp for supplies. It has been found that fish hooks and fish bones are invariably associated, at least one never finds a hook away from a layer of fish bone.

Thursday, July 24

Located a baby burial on an indurated dune just west of No. 16 - no midden matter over site but many have been washed off as the terrain is steep. Over the head was a large cardium inverted with a smaller cardium over the torso and a still smaller one over the pelvis. At the side of the head shell was a sandstone doughnut and between the two large shells were 2 bone arrowpoints - coiled about the neck region was a long string of shell beads. Child was probably in its first year and no bones could be saved.



Flexed on right side head to south. Scattered about the torso were square shell beads - grooved for sewing on clothing. The cross section olivella bead necklace was about the neck region. Scattered over the surface of the burial were many whole olivella beads.

Thursday P.M.

Part of crew worked on Site 22. After I had located and defined its boundaries. This site follows the top of a long north-south escarpment beginning at 200' and running up to 500' at the south end. There are 6 mounds about evenly distributed in a N-S line with much washed out midden matter in between. They are all of late period formation with F.P. midden underlying there. Doughnut-stones and fish bones are scarce on them. Mortars and "flower-pots" were seen. One washed out cremation.

Rest of crew worked on No. 20 as the talus of this site produces more material than any other site of equal size. A broken lava mortar was found on the surface here and the artifacts all appear of late culture connection. This dune has stratigraphy and will be tested later. The site has produced the only bead drill found so far. Bone whistles and steatite plentiful.

This P.M. at No. 21-A in L.P. midden a cache of fishhook blanks, a stone reamer and a grooved hammer was found 6" under ground.

Friday, July 25

Part of crew worked No. 23. Found it was all Late Period Midden except for underlying First Period patches in places. One cremation was found with a sacrificed knife, a steatite bowl - whole olivella and side section beads - and a dog. Shell ratio: Abalone 3rd?; Mussel 2nd; Limpet 3rd?; Snail(L) 1st. Black abalone strongest on east end and red on west end.

This site is composed of 4 mounds - the cremation was found in the first mound (westward). A washed out burial was found at the end of the second mound with no offerings. It was extended on the back with the face up. In lowest stratum. A bone tool was found here with fragments of the haft (wood and asphaltum still on it under the midden) at depth of 12".

On the west peninsula river gravel was found in place lying on the sandstone - here is an enormous stone flaking industry and where the middens have been eroded away the ground is paved with flakes and cores. Some porphyry boulders 14" through have been utilized by percussive flaking. It must have taken an enormous blow to do this. This nature material was only used for protoplanes; choppers, and picks all three of which belong to the Late Period. There is some evidence that the chopper was used in the middle period but eoliths are the only sure thing. Flake knives of this material also come in with the Late Period? Caches of three up to 20 were found. Some in 13-18-20+21. So far only 2 knives of this green porphyry have been found. Chalcedony was used sparingly it was derived from gravels too as the spherical arc of the cores testify. All other stone artifacts were imported. The yellow chert origin is still doubtful.

No. 21-A Is a series of midden mounds over a mile long lying on the north side of the peninsula with the east end curving off to the south.

Saturday, July 26

Located Cem 2+3 on No. 21. Excavated No. 3. 4 Burials were found here the whole 4 had been exposed by the wind and were in bad shape. 3 were close together and the 4th quite away off. This midden is very small being not over 60' wide and 300' long and 8" deep. The house sites were few and scattered - dates back to the beginning of the Late Period or into the Middle Period probably as the burials were badly decomposed.

SK-1 = Female - Burial had been too badly disturbed to make out position. Young female, 4 sawed off pelican bone sections mixed in with bones. Head probably to west.

SK-2 = Flexed on right side - hands to chin - head to the west. Sex female? Against the left malar were two fish hook reamers of shell-rock. Black midden matter in grave - buried in sand.

SK-3 = Flexed on the left side - head to north - hands to face. Black midden matter in grave. Sex = female. Fragment of a steatite doughnut on surface of ground - 6" west of head.

SK1-2+3 Had black midden matter in them showing that they were intrusive in the underlying grey sand.

SK-4 = Exposed and bone in bad condition. Sex female. Broad nose Type = Proto-australoid? Extended on back with prognathic medium thick skull - very broad face. Couldn't save head to north - legs bent at knees back under thighs - torso twisted to right - skull lying on right malar. Hands up to face.



No offerings with the body.

On west end of site scattered washed out burials were seen from femurs obtained 3 bodies were represented - one female - 2 males. Two broken sandstone mortars were seen on the site. Shell ratio: Mussel 28%; Snail(L) 50%; Abalone(B) 22%.

Site is overlaid with a Snail People midden. Cremation No. 2 = one and possibly two bodies - 2 sacrificed pestles which were almost twins. 1 reddish steatite bowl - and some greenish steatite fragments. Pestle 17591, Pestle 17592.

Sunday, July 27

Located cemetery No. 2 at Site 21-A July 26 but didn't begin excavations until today. 5 burials were found here two of which had been dug out (SK-3+SK-4). The skeletons here were all in very bad shape only the long bones which had been thrown out on the surface were hard; in fact they were mineralized. The burials were in a wet sand; a thing which has surprised us often. All the dunes on the island were damp after one gets a few inches under them. Human bone either hardens or crumbles after exposure and after being taken from this formation (MP). Cemeteries like this are never crowded and the space between burials is generally considerable. About the late cemeteries I don't know as they have all been dug out. This is a middle period cemetery and as with all these no sacrifice nor markers are found. Collectors say that late burials are marked with whale bone but as this bone was used extensively in construction and late burials were often in house pits the association may be fortuitous.

SK-1 = Male Flexed - head to north - on right side no offerings.

SK-2 = Male Flexed on left side - head to west - no offerings.

SK-3 = In too bad condition to determine sex, position or much of anything.

SK-4 = Ditto

SK-5 = Male Flexed (L.S.) - head to west - pismo beads and steatite in a necklace with the latter in the center of the chain. Body nearly obliterated. One chunk of red paint stone on side of head.

This is a middle period cemetery. They all seem to be located in swales between the dunes or on the slopes.

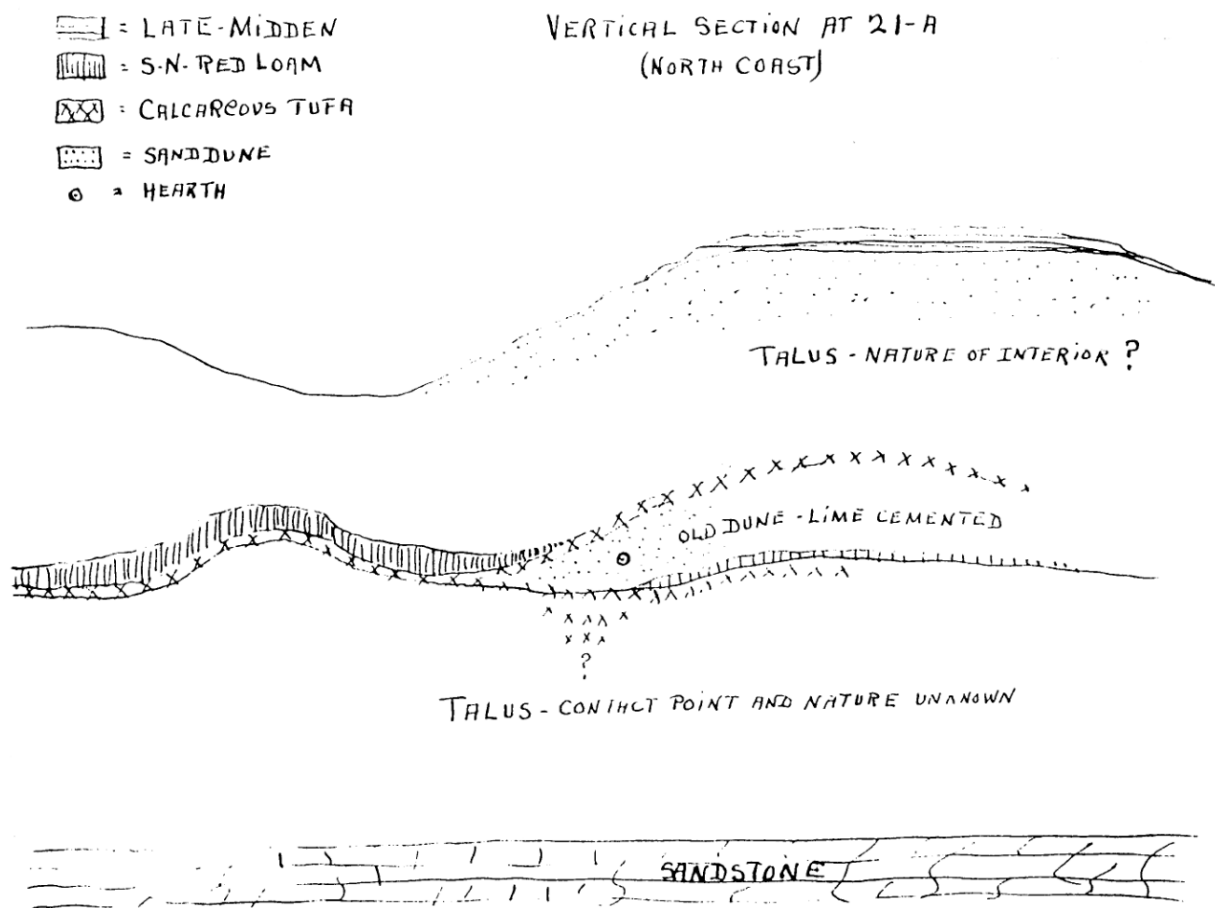
Shell ratio (21-A+21-C): Red abalone 15%; Butterfly 40%; Snail(L) 45%. Both have a veneer of Late Period Midden matter and whale bone houses on their apexes here the ratio changes to: Black abalone 25%; Mussel 45%; Snail (L) 30%. Sea Urchins, red snail, etc. occurs in both formations in pockets.

Monday, July 28

Split the crew - half working 21-B and 21-C and the remainder on 21-A where a cremation ground (Crem. No.1) was located - from the burnt fragments it was found that at least 3 people had been

cremated on a small area but as they were washed about the area could not be exactly determined. At least one burial and possibly two came out of the same area. With the cremations, pismo beads, whale bone tools, 3 steatite bowls, a steatite boat, 3 obsidian blades, and one mortar. It was certain that these were sacrificed with the cremations and not with the burials as they were burnt. On the top of many late middens burnt whale bone tools have often been noticed. It was thought that this was possibly done to temper them as they become very hard and brittle but as they are always broken it would seem more as if they were sacrificed at cremations.

On the north shore at No. 21 a hearth was found beneath 38" of calcareous tufa. I believe this lime to have been derived from the decomposition of the shells of land snails which exists by the millions on this island - in fact it is the most remarkable thing about the island. (Between apex and sandstone the vertical height is probably 60' to 80'.)



Tuesday, July 29

Located cemetery No.4 at 21-A and excavated it. This site is on a ridge and shows only the remnant of a midden. It has been reduced to base-level which is tufa resting on an older indurated dune. This site probably belongs to the first part of the L.P. Only the stone work and a little shell has been left by the placing effects of erosion. This cemetery had only 3 burials close together set at the points of a triangle (placed probably in house floors) and about equally distant (12 feet). The north one SK-2 had been dug out and the shell was gone - from the long bones I should judge that it was a woman(?). Burials set into pits in tufa. Black midden in pit.

SK-1 = Male Flexed on left side - head to the north and cocked up nearly vertical - the whole body was bowed down in the center throwing the right pelvis up nearly as high as the head - all three bodies had been placed in small pits in the tufa - no offerings; if any surface sacrifice had been made it had been removed. SK in bad condition - one steatite bead was found on surface ground near body - skull was exposed. Buried in midden matter of a light color.

SK-3 - 9 feet north of SK-2 - measuring from head of SK-3 to center of pit of SK-2. Sex male(?) as head was gone. Flexed on left side - torso twisted to right so chest was down - arms flexed hands to face. It is doubtful if this body had been disturbed as it was not exposed and the head must have been missing at time of burial. Side section olivella beads were found about the neck region these beads had rough perimeters and had not been ground. Bones in very poor condition. Burial in light colored midden matter - mostly ground urchin dirt.

The largest cemetery on the western peninsula is on the north slope of the second ridge back of Hell Hole - it was apparently dug out a long time ago - quite a few scattered burials which appear to have been washed out were noticed along this slope. Only at the cemetery were sacrificed mortars and pestles seen. Here we found whole olivella beads scattered through the ground but no other types. This cemetery was probably [not a late one]. This is Cemetery 6 of the early part of Late Period Canaliño.

Wednesday, July 30



Located and excavated Cem. 5 at 21-A. This is in a swale between two midden ridges and lying on tufa. It is 100 ft. north of Cem. 4 and 30 feet beneath it. The wind and rain have swept this swale clean of midden matter except for the cracked rock, and uncovered all the burials. This cemetery is early middle period and the crania seem quite uniform.

SK-1 Sex? Completely exposed and bones scattered about. Adult.

SK-2 Male - Longhead. Washed out. Adult. Proto-Australoid. 7-2/8" x 5-1/2"

SK-3 Male - Longhead - Broadnose - probably Proto-Australoid. Washed out.

SK-4 Female - old woman, teeth gone sutures closed. 6-7/8" x 5-1/8" Washed out. Proto-Australoid.

SK-5 Female - Flexed on right side - head to south - hands to face - left parietal pathological - 2 bone ulcers - Longhead - high broad nose - proto-Negroid? Bone too far gone to save. This type here has a rather unusual nasal region - there being no trough between the malars and nasal bones. One whole olivella bead found under right malar. Negroid naris 7" x 5-1/8" - 5-3/8" high.

SK-6 Skeleton exposed. Flexed on right side - set north and south with head to south Sex = male
Hands by face - whole body loosely flexed. Adult. No offerings.

SK-7 Skeleton extended full length on back with only feet exposed. Head to NW and tilted on the left malar. No offerings. Layer of charcoal and asphaltum 10" in diameter - 1" thick and 8" from skull on right side and on level with base. No offerings. Sex = male - Longhead - broad nose. Skull pathological - ulcers? Proto-Australoid? Bones in good shape.

SK-5-6+7 = were buried in very corrosive form of lime which may account for the bad condition of the bone. This soil bothered the excavators hands a great deal when ever met with - burning the hands after working only for a short time with it. Bones in good shape.

Located Cemetery 6 on hillside at west end of SN-21-A - Had been completely excavated by relic hunters. Were able to recover a few long bones and mandibles here. From the sacrificed material would judge it to be a late cemetery.

Thursday, July 31

Sent half the crew to work on No. 23 and to explore the southern coast. No springs were found and the sand dunes which these people invariably located on are absent in this region. Perhaps this is why so little occupation is present on this side of the island; after the party got east of No. 23 which is two miles long - no sites of any size were seen and snail-middens also were absent although present on the upper slopes of the island's apex on the south side. One washed out burial was found in an arroyo with the skull yet in place - no offerings and in sand beneath a late midden. This is a Middle Period burial? On the apex of No. 23 a disturbed cremation zone was found - number of bodies doubtful - sacrificed bone tools and steatite artifacts present. Crem = No.1.

The other half of crew worked on Sites 22 + and the steep west slope of 22. This slope is covered with a thin veneer of Late Period occupation with very few stretches of barren ground. Toward the south half of this west slope two great gulches have been cut -springs are present in the bottom of each. Snail middens are exposed in the walls of both. In the southerly one the S-M exposure is uncovered for 600 ft. with a maximum depth of 22" - the gradient straightens out at the base where the remnants of a once continuous sheet of S-M culture existed but is now represented by isolated blocks in many places covered with peat deposits 6" thick. - The exposure in the gulch rests on packed sands of aeolian origin and is capped with 12" to 18" of sand dune - on top of this is a veneer of Channel Island culture. This Snail-Midden is a late one as they had started to use sea food by this time. Mussels, 2nd;

Black abalone, 3rd (small ones); and sea urchins, 1st; are present in a fair degree of numbers but no fish bone. No stone could be found in this midden.

Snail midden found all over Site 22 especially in the sways between the L.P. mounds - whether they extend beneath them was not determined as no trenching was done but I am inclined to believe that they do.

Friday, August 1

Sent part of crew to work on plateau east of No. 22 in A.M. and spent P.M. packing preparatory to moving back to base camp in the morning.

With the photographer, asst. archaeologist I cleaned up some local investigations and tag ends on west end of island.

It has been found that water is yet to be found as seepages near low tide adjacent to nearly every site on the north coast of the island but that it is often of such a character as to be undrinkable. None was found at Sites 8, 6, 5*, 4*, 3, 2*, 1*

* = water in canyons 1/2 mile back of these sites.

The shell conglomerate which was used exclusively for reamers and drills comes from Crescent Harbor and beneath Site 20. It has been formed from the Pleistocene shell terrace which extends the entire length of the north coast by percolating waters depositing mineral of a binding nature. Two fossil oysters of Tertiary age were found at Crescent Harbor where they had been placed on a rock by some collector. We were unable to locate their source and no Tertiary fossils were seen. On the north side Pleistocene shell beds were found in several places on the edge of the 400 ft. terrace but none at a higher elevation. Slight folding was observed at the base of this terrace at the 70' elevation and the escarpment was formed by a NW-SE fault. In the arroyos at the base of this escarpment a Tertiary conglomerate is present - perhaps it is the source or in part the source of the river gravels employed so extensively by the natives. The gravels which cap the higher parts of the island must of had another origin though.

Much parallel faulting was observed on the south side and it is probable that this main fault which gave birth to the tilted block that forms the island lies beneath the ocean off the south coast.

The tilting is still going on with the north coast submerging. The island has undoubtedly been much larger at a more remote time.

Saturday, August 2

Moved 2 of the crew and a load of supplies back to base-camp at Crescent Harbor as we have finished the survey of the west end of the island except for the point. In the P.M. we finished the point and found only late period occupation on it. It is completely eroded leaving an enormous amount of flaked rock on a sandstone platform. These extensive expanses of flaking are quite impressive. One may cover an acre of it and only find a couple of planes or a chopper out of all the flakes.

On the north shore from the beginnings of 21 and around the point on to the south side whenever the tufa presents a vertical exposure charcoal was found in it from a depth of a few inches down to 14 feet. Only in 2 places were concentrations found that resembled hearths.

From the evidence we found to date it would seem that the people of the First Period (Snail Eaters) had no artifacts of a non-perishable nature - did not bury (We have examined several miles of exposures of Snail Middens which have been cut by erosion and found no bones nor even fish bone or mammal bone). In their sites no hearth stones were found and no sea shells except in sites on the west end where urchin, mussel and black abalone come in. These are probable later sites and may be intermediate of the pure Snail Sites and the Red Abalone Sites. The later run as follows: Snails, red abalone, and then butterfly shell. None of the later were seen on the south shore and they begin on the north shore at the east end at the foot of the 400 ft Mesa and a half mile back from the coast and get stronger as one progresses toward the west end where they become the strongest. No artifacts were found in them and only a few whale bone tools are known but these may have been dropped by the Channel Islanders who lived everywhere on top of these sites. Some of the early burials which seem to all be of the Proto- Australoid type may belong to the Red Abalone period and it may be an indigenous outgrowth of the First Period Culture. In the beginning the local gravels must not have been available or they would have been used. I would favor a submergence theory in accounting for its presence.

Sunday, August 3

Packed and moved remainder of crew and outfit back to base camp.

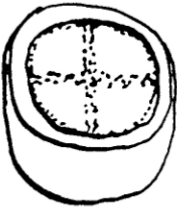
In the afternoon 2 of the crew working on No. 2 Site located a "jewel case". This cache was found on the talus just off the midden in hard packed sand. It comprised an asphalted small basket in which were one tent shell (hole ground in rim) one fossil shell pendant one fossil shell bead (disk shaped) two fish bone beads, two stone beads and one long slender stone pendant, also two asphaltum melting stones. Two red abalone shells had been inverted over the cache. The artifacts had not been polished and the drilling of one bead was incomplete so I would regard this as a temporary cache by a woman who expected to return to this village after a sojourn elsewhere but never did return to recover her hidden horde.

On the way down to Base-camp a late washed out burial was found at No. 12. Male skull recovered with dentition and facial bones gone.

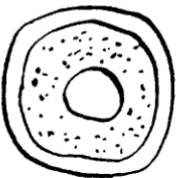
During the work all stages of mortar construction were observed such as below illustrated:



Pecked out loops - centers flaked out afterward.



Blocked out in quarters first - then quarters flaked out.



Pecked out in stages - center core under cut and snapped out.



The flower-pot type came in last and is invariably made of a hard grey sandstone while this type:



is the earlier and is usually of a softer yellow sandstone - even natural shaped mortars from which central concretions had weathered out were used with little artificial shaping.

Monday, August 4

Packed cartons most of the day while the crew went over the sites on the east end again to check up the past work and bring in heavy material which had been cached last month. On site No. 3 a large monolith was found 40" long which had been worked (flaked out of sandstone) and then pecked to finish it (same manner of making pestles, in fact the implement is the exact center part of a giant pestle). For pestles natural elongated cylindrical masses of grey sandstone which weather out of the local yellow sandstone were chosen then - chipped to the proper dimensions - then pecked - and then polished. This monolith is undoubtedly symbolic but whether in a serious or facious sense who knows. During the Late Period practically all of the pestle heads were decorated and various graceful tapers were given to

the shaft. This work is undoubtedly of a phallic nature but not in a worshipful sense - it is facieous as sex has always been with all peoples no matter how they cloak it. During this period the dark grey fine grained nodules of sandstone which are very hard and weather out of the softer sandstone were invariably chosen for mortars and bowls the latter are very rare. The sides of these were sometimes decorated in various patterns - at Site No. 3 at the cemetery we found the most. They usually carry a rim notch for an inlay either on the outside or the inside.

In the first levels of the Canaliño Culture no evidence of the mortar was found and the only implements found were eoliths, the red abalone scraper(?), and a few bone awls. At No. 13 one flake of dark Franciscan flint was found in the bottom midden. To this period must be added the asphalted basket (this evidence was only picked up toward the end of the work).

The development of the Canaliño Culture was made either on the northern islands or the mainland and but little if any on San Nicolas Island. Culture in the latter island was probably a matter of slow importation as fresh groups of immigrants came in with new ideas and forms from the other islands.

Tuesday, August 5

Site No. 14 which had been previously located was examined. Shell ratio: Mussel 1st; (B) Abalone 2nd; Limpet 3rd; some fish bone; Snail (L) 4th.

Area = 4 acres of mound, has been much larger but has eroded away, it is underlain with shell middens of the Snail Period. The two strata were separated by a barren zone everywhere except on the south side where the two contact. At one place in the uncovered San Nicolas Red Loam, hearths were observed in it beneath a tufa covering.

Four large cemeteries were found at this site it was undoubtedly an important site with the creek of good water flowing in the ravine to the south. Three of the cemeteries are in the basins of large community houses and have been looted long ago. A great quantity of sacrificed stone work such as mortars, pestles etc. accompanied them. The fourth cemetery which I consider earlier lies in a small valley between the two main mounds. Some digging has been done here but some of the burials here appear to have been washed out. We uncovered one here but I believe that the site contains more.

Cem I - SK-1 = Male in his thirties? Flexed on the right side - arms both flexed and under both legs - back acuted or bound so that head reposed with right malar against legs below knees. This is a very awkward position and a difficult one to assume. The man must have been extremely unaciated [?] to assume this position. In fact he was pathological and the whole right side of head was involved by a bone tumor with considerable exostosis. Body extended N+S with head to south. No offerings but smashed mortars were washed about on the surface also steatite bowls. Small finely made shell beads were scattered about on the entire cemetery.

The community houses here are large about 35 ft in diameter - one (No. 1) measured 40 ft with much whale ribs in it. In working over the old diggings here we removed beads, steatite, arrowheads, carved and inlaid bone (hematite) and one painted mortar. At the extreme south east end of this site we found a cremation cemetery which had been partially dug over and greatly eroded - considerable burnt and sacrificed material was found.

Wednesday, August 6

Worked the sites which surround the rim of the desert in which Tule Creek lies.

Site No. 15 - Area = Obliterated except for a 1/4 acre of Snail Midden - in one place this has a film of Late Period midden left upon it. This is a late Snail Midden as it has Red Abalone in the top and quite a variety of shell in the nucleus - Mussel, Urchin, Limpet. Sets on San Nicolas Red Loam. Maximum depth = 24". Late Midden: Mussel 30%; (B) Abalone 15%; (S) Snail 40%; (L) Snail 15%; Limpet and tent shell very strong.

This L.P. part is not as late as midden 14 except on the extreme east end near Tule Creek where a cremation was found - but these were always accomplished at about where the person died. This cremation had: 2 steatite bowls, 1 limpet ring, whalebone tools, 1 hook-reamer; sacrificed.

Cache No. 1 A washed out jewel-case cache was found 60 ft west of the cremation. No "flower pots" nor fancy pestles seen on this site. In the P.M. located sites Nos. 24-27+28 and made surface collections. Dog burials seen on SN-17 in top stratum.

Site 24 - Area = 900 ft long x 200 ft wide. Late Period confined to west-half with just a veneer on the east half out on this end were two large cemeteries which Sanger dug out. At the smaller 7 skeletons were counted and at the larger were 15 pairs of femurs, Sanger often stacked bones up for pictures which he obtained from different sources. On this site no "flower-pots" were found but the finest pestle of the expedition was obtained.

On the west end is a flat mesa part which is Shoshonean - 3 cremations were found on it and a great amount of broken steatite artifacts. Here two broken obsidian spears were found associated with the cremations. 2 Manos were seen here. Many dog burials here on top midden.

Thursday, August 7

Crossed Island with entire crew and worked south side, the center portion of which is so uniform a culture that 3 miles of it were mapped as one site, viz., No. 31. The terrain is so steep here that no middens of any magnitude could be found and those which were are small thin bedded and badly eroded - the maximum depth observed was 16". Shell Ratio: Mussel 1st; Fish bone 2nd - very highest seen; B. Abalone 3rd - red present in numbers; Urchins 4th.

Although these people at this site used an enormous amount of fish we found but few hooks, blanks and reamers. Dog burials are present. No mortars were seen - this is very strange as this site produced a veneer of Late Period culture.

The top stratum seems very late and all material is in a good state of preservation - considerable matting of sea grass was found here also some cordage (2 strand twist) at the base of the top stratum and 3" into yellow midden stratum. Total depth 11" to mat. Back of this site are trails which lead up over the

steep escarpment to the other side of the island in places they are worn deep into the sandstone as I have often seen in the Pueblo country.

After note: In Sept. 1934 some sea grass matting was found in a fire in the top of a midden here (the mussel level). Fish hooks are more plentiful on this site as one moves to the west end.

SK-1 We could only locate one burial here - it was exposed by erosion. Proto-Australoid. It was a Middle Period burial female in a yellow, packed sandy clay with streaks of mussel shell in it but no evidence of fire. Part of it must have become uncovered or nearly so at an early date so that the late-period people who settled on the site and built a midden built a hearth over it and charred all of the body bones, so that at first it was thought to be a cremation. It was too badly disturbed to tell much of the original position except that it was flexed. The seat of the fire was over the pelvis and reached up to the cervical vertebrae. There was one scorched spot at the right side of the occiput. In the pelvic region the soil was burnt a dull red.

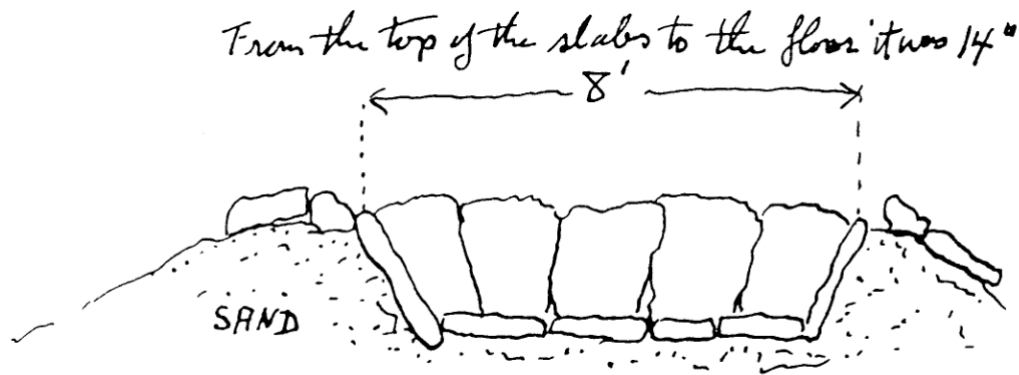
No snail midden seen in this region of the south coast. Small patches of midden matter were seen coming down the steep trails from the escarpment.

Friday, August 8

This day was spent exploring the high central plateau and Sites 29+30 were located and Site No. 26 enlarged. The 400 foot terrace and 500' terrace throughout the central plateau region was all included under No. 26 as the sites are all of the same culture period. They are Late Period and are in part Shoshonean judging from the amount of spear and arrowheads also late steatite forms and cremations. They give the appearance of great age as they have been destroyed by the strong winds which sweep over the plateau continuously. In most sites nothing is left but the stone work and not a single shell can be found.

Site No. 29 has the same shell ratio as the 26 site and is of the same culture period although Snail Middens occur under it and about it. Shoshone arrowpoints here and on SN-24+27.

At Site No. 30 a sweathouse was found in a fair state of preservation (they were also seen at Sites 24, 14, and 16 where they were too badly dilapidated to make out the structure except for a floor of sandstone slabs. The largest was on the west end of No. 24). That at No. 30 was off the midden and 15 paces to the east. From the top of the slabs to the floor was 14".

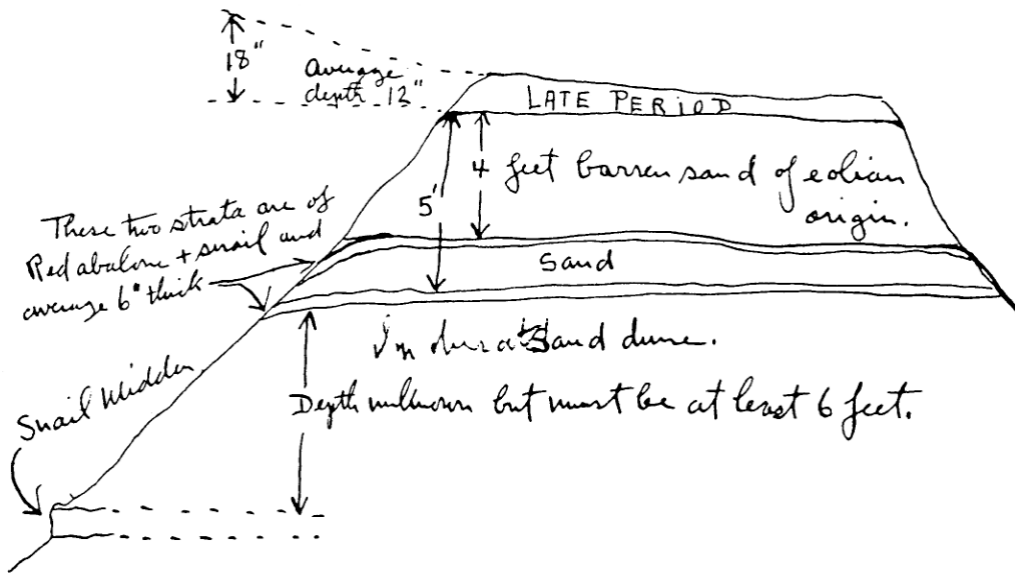


Site No. 30 One mile west of 25 and is made up of a group of small middens located on small sand dunes in fact none are ever found which are not either on a dune or was before it was destroyed. 3 mounds of No 30. are not far away and 2 mounds are a half mile south of these 3. These are all late period mounds and produced - manos steatite bowls - mortars - fishhook etc. 5 washed out skeletons seen. Shell ratio: Mussel 50%; B. Abalone 25%; L. Snail 20%; Limpet 15%. The area (even the original area) of these plateau sites is small - 1 acre being about the maximum.

Saturday August 9

Entire crew worked on the central plateau. On second terrace of No. 26 - a cache of 1 steatite effigy - 2 ground abalone rims - 2 bone gorgets - 1 bone whistle and a mass of seal bones, mostly flippers were found 6" under ground.

At Site No. 24 where stratigraphy representing all 3 culture periods is to be found a test trench was run and produced surprising results.



This mound shows an outcropping of the 3 period middens beautifully on all sides. The top midden has a high charcoal, stone, and shell content. The middle midden is defined by a heavy band of large red abalone shells completely encircling the hill yet when we opened the stratum up we found that it wouldn't average an abalone to 2 cu. ft. the fire content is low - no tools - bones nor cracked rock was encountered. It is puzzling how the erosion has concentrated these abalone in a heavy row about the hill. The snail midden or First Period culture underlies the hill at too great a depth for us to open up by drifting in on the horizontal to develop a vertical section so it is not known exactly how great the distance is from the top midden to the bottom midden. Found 2 cremations on apex of site - 15 ft. apart. They were in slight depressions - perhaps house sites.

SN-26 - in the P.M. a second jewel cache was found. Cache No. 2. This was on north rim of the plateau where only a few scattered house sites were present. The cache was exposed by erosion. It was washed out from a house floor and only partly recovered. Had been in a red abalone shell. Contents = 2 chunks of low grade obsidian, 4 flat serpentine beads (greenish blue), 1 steatite cylindrical bead (brown perhaps from burning).

Cache No. 3 From top stratum (washed out) 1 red abalone pendent (broken), 1 cardium pendent (oval - 2 drill holes - 3 beads, 1 flat knife shaped piece of yellow chert.

Sunday, August 10

The Tamaroa called for us at 9 A.M. and we were loaded in 1-1/2 hrs. and off for San Pedro Base 17 where we docked at 3:30 P.M. and drove by auto to San Diego that night, the Tamaroa bringing our material in to the later port the next morning.

The plateau middens are all snail or late middens - Red abalone middens were found only on the west end of the plateau, and they were small ones.

(Four Hypothetical Periods of Time)

Early Period	Snail Middens
Middle Period	Canaliño
Late Period	Canaliño
Historic	Shoshonean

Dart point culture in local porphyry cobbles occurs only on the bare plateau. Its horizon has been destroyed. If they were in midden the type has not survived. One was found in a coastal MP midden but had probably been brought there as it was patinated. This side notched type is similar to the Hunting People culture of DB Rogers.

Sept. 1934

Worked SN-32 - This area is underlain with midden. Barren Zone hard packed red sand. Some black abalone strata appear to be as old as the red abalone. Dearth of implements on this great area. Artifacts only found with mussel middens. At the east end near the sand spit is a very large mussel midden but artifacts were almost absent.

Sept. 1934

SN-15 (Rear and main section) [prob SN-14]

This large village is on the plateau directly back of Corral Harbor. Covers 15 acres and is built on sand dunes. The west end is on an old soil stratum and is buried to some extent with modern soil and vegetation. It is probably all underlain with snail and red abalone midden in fossil dunes. Strong fish bone level on top carrying fish hooks. Site has many sandstone saws on it. Strigils present. Tremendous amount of river cobble flaking with nothing of a secondary flaked type made. Eleven community houses present running from 13 feet in dia. to 35 feet. Some small house pits seen - these seem to be Shoshonean. The community houses were of late Canaliño origin and nine were used for cemeteries. While most burials are in the pits some were in the rims. Relic hunters have dug most of them out. One pit had considerable cottonwood slabs in it. All have whale ribs, vertebrae, and scapulas present. Many mortars and pestles broken with burials. Two pits had undisturbed cremations in them with burnt beads, whalebone tools and steatite associations.

CREMATIONS

- SN-15 Crem No. 1 = On extreme east end of site. It was exposed by erosion. Parts of cranium and half a lower jaw (lower left) were recovered. Contents =
- 1 fossil root file
 - 1 bone arrowpoint
 - 4 fragments of whalebone tools (charred)
 - 1 key-hole limpet bead
 - 2 steatite bowls
 - 1 sandstone bowl or small mortar
- SN-23 Crem No. 1 = One or more cremations, too badly washed out to tell for certain. Contents =
- 1 Flint (grey) spearpoint
 - 2 sizes of whole olivella beads
 - 1 bone arrowpoint
 - Olivella shell blanks
 - 1 key hole limpet bead
 - Small flat steatite shell beads
 - Very small flat olivella beads
 - 1 Steatite doughnut stone
 - 1 Steatite cup
 - 5 Whalebone tools (fragmentary)
 - Burnt dog bones?
 - 1 Sandstone mortar (flower pot)
 - 1 Steatite pendant
 - 1 Whalebone flaker
- SN-22 Crem No. 1 = Badly washed out - only burnt human bone found and no sacrifice unless several burnt whalebone tools and a steatite bead nearby were from the cremation. Cremation was on the highest midden of this area on the southernmost end.
- SN-14 Cremations - Too greatly disturbed to estimate the number as the site was at the edge of a mesa which had eroded back and relic hunters had also dug here some. No matter how poorly consumed the bones were they were always cracked up. This is the largest cremation cemetery of all. Contents =
- 1 steatite effigy (seal?)
 - 1 Chert knife (ovate shape-burnt black)
 - 1 Franciscan chert broken blade
 - 1 Steatite tablet - buff patina - incised
 - 1 Small obsidian spearpoint (broken)
 - 1 Obsidian knife {Point broken off triangular type
 - 1 Steatite bowl {Buff patina 4 fragments
 - 1 Steatite tablet {fragment incised with diamonds
 - 8 Steatite doughnut stones (broken)
 - 3 Fossil root files
 - 1 Steatite bowl (boat shaped) contains a film of asphaltum
 - 1 Bone harpoon

- 2 Sandstone mortars (FP)
- 2 Sandstone pestles
- 7 Whalebone tools (broken
- 1 Steatite bowl (frag incised
- 1 Steatite Bowl (fragments)
- Steatite and shell beads
- Bone arrowpoints
- Burnt fishhook
- 2 lava mortars

SN-24 Crem. No. 1 = On the highest part of the midden on the west end in a slight depression like a house pit 6' in diameter. Contents =

- 1 Spearpoint broken in three pieces
- Franciscan flint (patina)
- Cranium fragments
- Steatite bowl fragments
- Steatite doughnut (2 fragments)

Crem. No. 2 = 15 ft. north of No. 1 - had been dug over by relic hunters. Contents =

- Cranium fragments
- Steatite fragments
- Steatite doughnut stone (1/2)
- had been sacrificed
- 2 Whalebone tools (burnt + broken)
- 1 Bone arrowpoint (burnt)

Near the cremation was 1/2 of a lava metate the only one seen on the island although occasional fragments of lava mortars were seen on late middens SN-14 and SN-10.

SN-21 Cremation Cem No. 1

Located on a shelf on the east end of a midden. Badly washed out - number of cremations uncertain but at least twelve some bone material was uncharred as if an interment had accompanied the cremation or it might have been a poorly consumed skeleton. 1 adult and 1 child unburned. Contents=1 ocher paint stone (yellow)

- 3 Obsidian spearpoints {17629, 17630, 17631
- Tip of obsidian knife (?)
- 1 Incised steatite cup (fragments)
- 1 Steatite bowl (white), (fragments)
- Whole olivella beads
- Side section olivella beads
- Tufa bead
- Keyhole limpet beads
- Steatite effigy canoe
- 1 Steatite pendant
- 1 Steatite bowl (grey green) hole drilled inside. Incised around rim (frag)
- Pismo shell cylindrical beads

1 broken mortar (flower pot type)
9 Whale bone tools (broken)
1 Deer bone awl butt (carved)
2 Cylindrical harpoon points (whalebone)
1 Chalcedony spearpoint (side notched)
1 Root-cast file (accidental inclusion?)

12 jaws recovered and 3 unburnt ones. Check over of skeletal material disclosed fragmentary skulls of 3 individuals which were interred previous to the cremations = 2 adults and one adolescent.

SN-27 Washed out cremations were seen here on top of the midden.

SN-29 Evidence of washed out cremations in the way of burnt human bone.

SN-31 Cremation on top of a mussel and fish bone midden - (1934) washed out.

Contents = Male skull parts, side section olivella beads and small flat soapstone beads, and burnt whale bone tools and whole olivella beads.

SN-26 At west end 5 cremations encountered on top of mussel (1934) midden; all had steatite artifacts associated with them and broken sandstone mortars and pestles. Not excavated. This site begins at a point 1/2 mile south of SN-33.

SN-7 Five cremations located on sea side of midden near the (1938) apex.

Caches

- FLAKE KNIVES: SN-18{ #1 Cache exposed by erosion rested on bare subsoil. 6 in cache.
#2 Cache had 15 in it rested on talus of sand and were not in top stratum unless they had settled through it.
- SN-21-A{ #1 Cache - 18 in this cache which was exposed by erosion, laid on indurated sand in midst of Early Canaliño Midden nearly obliterated.
- #2 Cache - 1/2 mile away from Cache #1 found under same condition but scattered so as to make it uncertain how many were in it originally. 6 were close together.

Pestles: SN-22 washed out and exposed on talus of sand - 8 small ones - probably from a late Canaliño midden.

Cache on SN-13 of 20 flake burins - found exposed on talus - they are probably Early Canaliño.

Caches of knives and spearpoints were probably made as large groups were often found washed out in a small area.

Pleistocene Terrace (back of Brook's Landing;
Elevation = 40')

Haliotis cracherodii

Phacoides (Callucina) californica
Armaea inessa
Septifer? bifurcatus?
Aletes squanegeris?
Cryptochiton stelleri?
Mopalia ciliata
Conus californicus
Cumingra lamellosa - sby.
Balinus sp.
Acmaea pelta
Acmaea mitra
Haliotis fulgens
Aeanthina spirata?
Veneruptis lamellifera
Fissurella volcano
Chlorostoma galena
Acmaea scabra
Olivella biplicata

Pleistocene Terrace (northeast side;
Elevation = 60')

Dentalium pretiosum
Turretella cooperi
Callistoma costatum - Marlyn
Legula funebrate - A. Ad
Lirfaea gabbi - Teyon
Amiantes callose - Conrad
Conus californicus
Crepidula adunca
Fusems traski - Dall
Tretonalia circumteste - Sterns
Hipponyx tumens - cpr
Aletis squamigerus - cpr
Alectrion cooperi - Forbes

Hipponyx antiquatus - Line'
Mitra idae - Melvell
Acmaea limatula - cpr
Haliotis cracherodii
Trachycardium quadragenarum - Conrad

Olivella biplicata
Haliotis rufescens
Calucima californica
Acmaea scabra
Gladina crecteculata